Mariosousa, a New Segregate Genus from *Acacia* s.l. (Fabaceae, Mimosoideae) from Central and North America

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Abstract. Recent studies have shown that the genus *Acacia* Miller s.l. is polyphyletic, consisting of at least five distinct groups of species. One of these groups, the proposed genus *Mariosousa* Seigler & Ebinger, consists of 13 species. We have made the following new combinations: *Mariosousa acatlensis* (Bentham) Seigler & Ebinger, *M. centralis* (Britton & Rose) Seigler & Ebinger, *M. compacta* (Rose) Seigler & Ebinger, *M. coulteri* (Bentham in A. Gray) Seigler & Ebinger, *M. dolichostachya* (S. F. Blake) Seigler & Ebinger, *M. durangensis* (Britton & Rose) Seigler & Ebinger, *M. mammifera* (Schlechtendal) Seigler & Ebinger, *M. millefolia* (S. Watson) Seigler & Ebinger, *M. russelliana* (Britton & Rose) Seigler & Ebinger, *M. salazarii* (Britton & Rose) Seigler & Ebinger, *M. sericea* (Martens & Galeotii) Seigler & Ebinger, *M. usumacintensis* (Lundell) Seigler & Ebinger, and *M. willardiana* (Rose in Vasey & Rose) Seigler & Ebinger. These species are restricted to tropical and subtropical regions of the southwestern United States, Mexico, and Central America. In addition to their close geographic affinities, a series of morphological characteristics, as well as recent molecular data, separate this new genus, which has been commonly referred to as the *Acacia coulteri* group. They are morphologically distinct from other species of *Acacia* subg. *Aculeiferum* Vassal in that they always lack prickles and are never lianas. Although this group of species is monophyletic, previous taxonomic treatments have not dealt with them as a separate unit within *Acacia* subg. *Aculeiferum*.

Key words: *Acacia coulteri* group, *Acacia* subg. *Aculeiferum*, *Acacia* sensu lato, Fabaceae, *Mariosousa*.

As presently defined, *Acacia* Miller is a cosmopolitan genus of more than 1350 species found throughout the tropical and subtropical regions of both the Old and New Worlds (Maslin et al., 2003). Placed in the tribe *Acacieae* within the subfamily Mimosoideae (Fabaceae), the genus has traditionally comprised three large subgenera: *Acacia* subg. *Acacia* (ca. 161 species), subgenus *Aculeiferum* Vassal (ca. 235 species), and subgenus *Phyllodineae* (DC.) Seringe (ca. 960 species). It has been suggested that the genus is polyphyletic, and within the past 35 years various classifications have been proposed that divided the genus into three genera, mostly corresponding to the three traditional subgenera (Vassal, 1972; Pedley, 1978, 1986). These proposals have not been widely accepted until recently. Most students of this genus have thought that more data were needed to make informed decisions concerning the generic status of *Acacia* (Maslin, 1988).

It is now generally agreed that the genus *Acacia* s.l. is polyphyletic. Also, there has been recent accumulation of data derived from morphological and molecular studies that has led to a better understanding of the probable relationships within the genus, as well as the position of the genus within the Mimosoideae (Maslin, 1988; Chappill & Maslin, 1995; Clarke, 1995; Clarke et al., 2000; Maslin et al., 2000, 2003; Miller & Bayer, 2001, 2003; Luckow et al., 2003). One result of these studies is that a small group of 13 species, commonly referred to as the *Acacia coulteri* group, should be placed in a separate genus.

Results and Discussion

The complex of about 235 species worldwide that are presently placed in *Acacia* subg. *Aculeiferum* Vassal (1972) (approximately the same as series

Vulgares Bentham (1875)) can be divided into several informal species groups based on overall similarities of habit, stipule structure and persistence, presence or absence of prickles, presence or absence of short shoots, petiolar gland shape and structure, shape and venation of leaflets, and inflorescence structure (Jawad et al., 2000). At the present time, however, many of these informal groups within subgenus *Aculeiferum* have not been established to be monophyletic units, and have not been formally described. Most American species of this subgenus should be transferred to *Senegalia* Rafinesque (Pedley, 1978, 1986) or to *Acaciella* Britton & Rose (*Acacia* subg. *Aculeiferum* sect. *Filicinae* Pedley). We have recently reviewed the status of American species of *Senegalia* (Seigler et al., 2006).

The taxa of another of the groups of phenetically similar species, the *Acacia coulteri* species group (Maslin & Stirton, 1997), herein described as a new genus *Mariosousa* Seigler & Ebinger, were recently revised using morphometric studies involving principal components analysis (Jawad et al., 2000). Taxa of this species group are unarmed, erect shrubs and small trees with persistent, herbaceous stipules, relatively unspecialized petiolar glands, and flowers in cylindrical spikes. Except for minor differences in flower size and pubescence, the flowers of these taxa are very similar. The 13 taxa of the *A. coulteri* group range from Arizona, south through Mexico into Costa Rica. They are morphologically distinct from other species of *Acacia* subg. *Aculeiferum* in that they always lack prickles and are never lianas. Although this species group appears to be monophyletic, previous taxonomic treatments have not dealt with these species as a separate unit within *Acacia* subg. *Aculeiferum* (Bentham, 1875; Standley, 1922; Britton & Rose, 1928).

Members of the *Acacia coulteri* group can be distinguished from those of *Senegalia* by the absence of prickles and the order of development of the earliest leaves (Vassal, 1972). Those of the *A. coulteri* group are pinnate, pinnate, and then bipinnate, whereas the first three leaves of *Senegalia* species are bipinnate or a single pinnate leaf followed by two bipinnate leaves (Vassal, 1972). *Vachellia* Wight & Arnott species produce two pinnate leaves followed by a bipinnate leaf (Vassal, 1972). *Acacia coulteri* group species can usually be distinguished from members of the genus *Acaciella* (formerly subg. *Aculeiferum* sect. *Filicinae*) by the presence of petiolar nectaries, although they are sometimes missing in *Mariosousa salazarii* (Britton & Rose) Seigler & Ebinger and usually missing in *M. millefolia* (S. Watson) Seigler & Ebinger. The subtending floral bracts of the *A. coulteri* group species are usually caducous, whereas those of genus *Acaciella* are usually persistent, even into fruiting condition in many species. The stamens of dried *A. coulteri* group specimens are tan, brown, or occasionally red-brown in color, whereas those of *Acaciella* species possess a characteristic brown-orange color. The funiculus of many members of genus *Acacia* (former *Acacia* subg. *Phyllodineae*) is arillate (Vassal, 1972), but not so in species of the *A. coulteri* group. Furthermore, many species of *Acacia* possess phyllodes (Maslin et al., 2003), whereas the leaves of all members of *A. coulteri* group are bipinnate, although the pinnae of *M. willardiana* (Rose in Vasey & Rose) Seigler & Ebinger leaves are dropped under dry conditions. The points of detachment can still be seen, however. Species of the *A. coulteri* group can be distinguished from *Vachellia* species by the absence of stipular spines and the presence of vegetative, although sometimes weakly scarious, stipules. The ovaries of *A. coulteri* group species are often stipitate, whereas those of genus *Vachellia* are usually subsessile or sessile. Members of the genus *Vachellia* have a true involucre on the peduncle; this feature is lacking in species of the *A. coulteri* group. Members of the *A. coulteri* group can usually be distinguished readily from members of the tribe Ingeae because the stamen filaments of the former are free to the base, whereas those of Ingeae species are characteristically fused into a tube for a significant portion of the length of the filaments. The leaves of many members of the genus *Inga* Miller and one *Cojoba* Britton & Rose species are pinnately compound, whereas mature leaves of the *A. coulteri* group are uniformly bipinnate.

Previous DNA studies have shown that both the genus *Acacia* s.l. and *Acacia* subg. *Aculeiferum* s.l. are polyphyletic (Robinson & Harris, 2000; Clarke, 1995; Clarke et al., 2000; Miller & Bayer, 2000; Luckow et al., 2003; Miller et al., 2003; Seigler et al., 2006). Furthermore, although they were inadequately sampled in most of these studies, two groups of species within *Acacia* subg. *Aculeiferum* s.l., *Acaciella* (subg. *Aculeiferum* sect. *Filicinae*) and species belonging to the *Acacia coulteri* group (*Mariosousa*), are distinct from a major part of the subgenus, which is now considered to comprise the genus *Senegalia* (Seigler et al., 2006).

In the present study, DNA from 34 vouchers representing 30 species of mimosoid legumes was sequenced for the chloroplast loci: *mat*K, *trn*L intron, *trn*L-*trn*F intergenic spacer region. Sampling included representatives of the major lineages of *Acacia* s.l., including the genera *Senegalia* (*Acacia* subg. *Aculeiferum*, in part) (Seigler et al., 2006), *Vachellia* (formerly *Acacia* subg. *Acacia*) (Seigler & Ebinger, 2005), *Acacia* (formerly *Acacia* subg. *Phyllodineae*),

Mariosousa (*Acacia* subg. *Aculeiferum* species related to the *Acacia coulteri* group), and *Acaciella* (subg. *Aculeiferum* sect. *Filicinae*) (Britton & Rose, 1928), as well as *A. visco* Lorenz ex Grisebach, *A. galpinii* Burtt Davy, and several species of the tribe Ingeae. *Mimosa tenuiflora* (Willdenow) Poiret was used as the outgroup. African and Asian representatives that may be transferred to *Vachellia* and *Senegalia* in the future also are included (Table 1).

Maximum parsimony analyses were performed on the aligned sequences using the heuristic search option (excluding uninformative characters) in PAUP* 4.0 (Swofford, 1999). A four-step search method for multiple islands was performed using 10,000 random replicates (Olmstead & Palmer, 1994). Support for internal branches was evaluated by using the fast bootstrap method with 1000 replicates (Felsenstein, 1985).

The heuristic analysis found 220 trees of 892 steps with a consistency index (CI) of 0.85 and a retention index (RI) of 0.80. A strict consensus tree with bootstrap support values is shown in Figure 1. The basal clade (Clade A) is *Vachellia*, which is supported by a bootstrap value of 100% and contains both American and African species. All species other than *Vachellia* plus *Acacia tortilis* (which we consider within *Vachellia*) are placed in a separate clade (Clade B, 67% bootstrap value). This confirms previous results that show *Vachellia* to be relatively distantly related to other *Acacia* s.l. taxa (Luckow et al., 2003; Miller et al., 2003).

The genus *Senegalia* (Clade C) is supported by a bootstrap value of 89% and is sister to the rest of the species examined. The remaining species are divided into two clades (Clades D and H).

Clade D is a monophyletic entity comprised of 10 samples of six species related to the *Acacia coulteri* group (*Mariosousa*) (68% bootstrap value). This clade can be subdivided into two subclades E and F. Clade E (60% bootstrap value) is comprised of *M. willardiana* (S. F. Blake) Seigler & Ebinger and *M. salazarii* (Lundell) Seigler & Ebinger, whereas Clade F (91% bootstrap value) contains the remaining species. Multiple samples of *M. dolichostachya* and *M. usumacintensis* are placed in an unresolved polytomy (Clade G, 68% bootstrap value). The final major clade (Clade H) contains species of tribe Ingeae, *Acacia* (formerly subg. *Phyllodineae*), *Acaciella*, and two taxa of *Acacia* subg. *Aculeiferum*, *A. visco* and *A. galpinii*, that as of the present have unclear relationships. Of these, *Acaciella* plus *Acacia boliviana* (which we consider within *Acaciella*) is monophyletic (Clade I, 100% bootstrap value). The combined Ingeae/*Acacia* clade (Clade J) is poorly supported (51% bootstrap value). However, the two species of *Acacia* (formerly subg. *Phyllodineae*) form a strongly supported clade (93% bootstrap value) within Clade J and are monophyletic.

In summary, increased sampling confirms previous results that suggested monophyly of the group of species related to the *Acacia coulteri* group (*Mariosousa*) and, furthermore, suggests two lineages within this genus.

Description of the Genus

Mariosousa Seigler & Ebinger, gen. nov. TYPE: *Mariosousa coulteri* (Bentham) Seigler & Ebinger [= *Acacia coulteri* Bentham in A. Gray, Pl. Wright. 1: 66. 1852].

Frutices et arbores parvae, inermes, ramulis non flexuosis; stipulae persistentes, herbaceae; rhachis saepe supra canaliculata; glandula prope basim petiolorum, etiam interjuga aliquapinnarum; foliola parva, 1 ad 44-juga, linearia vel oblonga, obliqua; flores pentameri, albo-lutei, sessiles, in spicis cylindricis; stamina distincta, interdum ultra 50; legumina sine cremore, dehiscentia, oblongo-linearia, compressa; acini complanati, glabri.

Unarmed shrubs and trees; twigs usually not flexuous; short shoots usually absent. Leaves alternate, bipinnately compound; stipules herbaceous, narrowly triangular to linear, persistent; petioles mostly adaxially grooved; petiolar glands small, mostly solitary (rarely absent); rachis usually adaxially grooved with a small gland between the upper 1 or 2 pinna pairs; pinnae 1 to 44 pairs per leaf, mostly with numerous leaflets (4 to 65 pairs); leaflets small (mostly less than 10 mm long), opposite, linear to oblong, the base oblique. Inflorescence a cylindrical spike; involucre absent; floral bracts linear, early deciduous. Flowers sessile, creamy white; the tubular calyx and corolla each 5-lobed; stamens numerous (50+), separate; the stipitate ovary usually glabrous. Legumes straight, flattened, oblong, lacking pulp, dehiscent, transversely to irregularly striate, with a distinct stipe. Seeds uniseriate, strongly flattened, smooth, usually with a large U-shaped pleurogram covering 50%–70% of the seed.

Etymology. *Mariosousa* honors Mario Sousa, former Director of the Herbarium of the Instituto de Biología (MEXU), Universidad Autónoma de México, who has done extensive work in *Acacia* systematics, directed the research of a number of students in this area, and collected many specimens of this genus.

Detailed descriptions, geographic distribution, and representative specimens of all species can be found in Jawad et al. (2000).

Table 1. Species used in this study. Genbank numbers are for the *Mat*K and *trn*L chloroplast DNA regions. The species *Acacia boliviana*, *A. galpinii*, *A. schweinfurthii*, *A. tortilis*, and *A. visco* should be considered as members of *Acacia* s.l.

Taxonomic grouping	Species	Voucher/collector	GenBank accessions
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa acatlensis*	DS16002	DQ371890, DQ371874
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa coulteri*	DS15953	DQ371893, DQ371868
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa dolichostachya*	DS16035	DQ371892, DQ371866
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa dolichostachya*	DS16044	DQ371896, DQ371867
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa dolichostachya*	DS16040	DQ371894, DQ371873
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa salazarii*	DS15978	DQ371888, DQ371865
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa salazarii*	DS15984	DQ371897, DQ398003
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa usumacintensis*	DS15950	DQ371891, DQ371864
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa usumacintensis*	DS16025	DQ371889, DQ371863
Acacia subg. *Aculeiferum* *Acacia coulteri* group	*Mariosousa willardiana*	DLEG 89-0143	AY386898, DQ371862
former subg. *Acacia*	*Acacia tortilis* (Forsskål) Hayne	CANB 615593	AF274140, AF522974
former subg. *Acacia*	*Vachellia campechiana* (Miller) Seigler & Ebinger	CANB 615587	AF274133, AY574113
former subg. *Acacia*	*Vachellia collinsii* (Safford) Seigler & Ebinger	DS16038	DQ371877, DQ371869
former subg. *Acacia*	*Vachellia cornigera* (L.) Seigler & Ebinger	DS16049	DQ371886, DQ398004
former subg. *Acacia*	*Vachellia schottii* (Torrey) Seigler & Ebinger	CANB 615589	AF274136, AF522971
former subg. *Acacia*	*Vachellia vernicosa* (Britton & Rose) Seigler & Ebinger	CANB 615605	AF523113, AF522970
former subg. *Phyllodineae*	*Acacia lycopodiifolia* A. Cunningham ex Hooker	CANB 615616	DQ371879, AF195705, AF195686
former subg. *Phyllodineae*	*Acacia melanoxylon* R. Brown	CANB 615580	AF274166, AF195699, AF195680
subg. *Aculeiferum*	*Acacia galpinii*	CANB 615736	AF523098, AF522988
subg. *Aculeiferum*	*Acacia visco*	CANB 615607	AF523116, AF522982
subg. *Aculeiferum*	*Acacia schweinfurthii* Brenan & Exell	CANB 615609	AF523101, AF522979
subg. *Aculeiferum*	*Senegalia senegal* (L.) Britton & P. Wilson	CANB 615554	AF274143, AF195700, AF195681
subg. *Aculeiferum*	*Senegalia gaumeri* (Blake) Britton & Rose	DS16042	DQ371895, DQ371858
subg. *Aculeiferum*	*Senegalia roemeriana* (Scheele) Britton & Rose	CANB 615608	AF523099, AF522977
subg. *Aculeiferum*	*Senegalia wrightii* (Bentham) Britton & Rose	DLEG 900444	AF274148, DQ371854
subg. *Aculeiferum* sect. *Filicinae*	*Acaciella angustissima* (Miller) Britton & Rose	DS15993	DQ371887, DQ371872
subg. *Aculeiferum* sect. *Filicinae*	*Acacia boliviana* Rusby	CANB 615555	AF274144, AF522981
Ingeae	*Albizia lebbeck* (L.) Bentham	DLEG 99-0005	DQ398005, DQ371875
Ingeae	*Havardia pallens* (Bentham) Britton & Rose	CANB 615547	AF274125, AF522955
Ingeae	*Inga edulis* Martius	MEL 2066677	AF523078, AF522957
Ingeae	*Parachidendron pruinosum* Koorders	CANB 615549	AF274127, AF522961
Ingeae	*Paraserianthes lophantha* (Willdenow) I. C. Nielsen	CANB 615550	AF274128, AF522962
Ingeae	*Zapoteca tetragona* (Willdenow) H. M. Hernandez	CANB 615626	AF523097, AF522966
Mimoseae	*Mimosa tenuiflora*	CANB 615541	AF274120, AF522943

KEY TO THE SPECIES OF *MARIOSOUSA* IN CENTRAL AND NORTH AMERICA

1a. Pinnae mostly with more than 36 pairs of leaflets, especially those near the middle of the rachis.
  2a. Petiolar gland(s) flattened, usually located on the lower third of the petiole; leaflet apex obtuse to broadly acute.
    3a. Leaflets 1.2–1.9 mm wide; leaves with more than 6 pairs of pinnae. . . . . 12. *M. usumacintensis*
    3b. Leaflet mostly less than 1.2 mm wide; most leaves with 6 or fewer pairs of pinnae . . . . 5. *M. dolichostachya*
  2b. Petiolar gland(s) saucer-shaped to cup-shaped, usually located on the upper half of the petiole, rarely absent; leaflet apex narrowly acute to acuminate.
    4a. Minute purple glands common at the base of the leaflet and usually along the rachis; leaflets lacking long hairs on the lower side at the base . . . . . 1. *M. acatlensis*
    4b. Minute purple glands absent; leaflets usually with long hairs on the lower side at the base . . 2. *M. centralis*
1b. Pinnae mostly with fewer than 36 pairs of leaflets, or pinnae absent.
  5a. Leaves less than 30 mm long, some clustered on short shoots. . . . . .3. *M. compacta*
  5b. Leaves more than 30 mm long; short shoots absent; pinnae sometimes absent in *Acacia willardiana*.
    6a. Leaflets appressed to erect-pubescent on both surfaces, usually densely so; minute purple glands common on the rachis and pinna rachises.
      7a. Petiole and rachis densely pubescent with erect hairs about 0.3 mm long; petiolules less than 2.1 mm long; fruit pubescent . . . . . .11. *M. sericea*
      7b. Petiole and rachis glabrous or with short, appressed hairs; petiolules more than 2.1 mm long; fruit glabrous.
        8a. Petiolar glands raised, the apex bulbous; most leaves with fewer than 7 pairs of pinnae . . . . . 7. *M. mammifera*
        8b. Petiolar glands sessile and with an irregularly raised apex; most leaves with more than 10 pairs of pinnae . . . . . 6. *M. durangensis*
    6b. Leaflets glabrous or lightly appressed-pubescent beneath; minute purple gland absent.
      9a. Leaves mostly with a single pair of pinnae (rarely 2 or 3); many petioles more than 100 mm long . . . . . .13. *M. willardiana*
      9b. Leaves mostly with 4 or more pairs of pinnae; petioles less than 70 mm long.
        10a. Rachis gland between the upper pinna pair stalked, with a globose apex; shrub or small tree less than 4 m tall . . . . . 8. *M. millefolia*
        10b. Rachis gland between the upper pinna pair sessile, usually saucer-shaped, cup-shaped, or absent; large shrub or tree, more than 4 m tall.
          11a. Bark of trunk and larger branches exfoliating and papery; petiolar glands absent on many petioles; leaflet apex acuminate. . . . . .10. *M. salazarii*
          11b. Bark of trunk and larger branches smooth to furrowed, not exfoliating; petiolar glands present; leaflet apex broadly acute to obtuse.
            12a. Leaflets appressed pubescent beneath; rachis and pinna rachises puberulent above; perianth pubescent . . . . . 4. *M. coulteri*
            12b. Leaflets glabrous beneath; rachis, pinna rachises, and perianth glabrous or nearly so. . . . . .9. *M. russelliana*

1. Mariosousa acatlensis (Bentham) Seigler & Ebinger, comb. nov. Basionym: *Acacia acatlensis* Bentham, London J. Bot. 1: 513. 1842. *Senegalia acatlensis* (Bentham) Britton & Rose, N. Amer. Fl. 23: 112. 1928. TYPE: Mexico. Puebla: Acatlán, May 1830, *G. Andrieux 396* (holotype, K; isotypes, G, US, K photos F, MEXU, MICH, NY, TEX).

Senegalia submontana Britton & Rose, N. Amer. Fl. 23: 113. 1928. TYPE: Mexico. Oaxaca: cerro San Antonio, 1800 m, 12 Oct. 1907, *C. Conzatti 2046* (holotype, US; isotypes, F, MEXU, NY).

Britton and Rose (1928) listed the type as *Conzatti 25,346*. On the NY isotype, Britton wrote "the number of this specimen was erroneously printed 25,346."

2. Mariosousa centralis (Britton & Rose) Seigler & Ebinger, comb. nov. Basionym: *Senegalia centralis* Britton & Rose, N. Amer. Fl. 23: 113. 1928. *Acacia centralis* (Britton & Rose) Lundell, Contr. Univ. Michigan Herb. 4: 7. 1940. TYPE: El Salvador, near San Salvador, 1923, *S. Calderón 1774* (holotype, NY; isotypes, BM, F).

3. Mariosousa compacta (Rose) Seigler & Ebinger, comb. nov. Basionym: *Acacia compacta* Rose, Contr. U.S. Natl. Herb. 8: 31. 1903. *Senegalia compacta* (Rose) Britton & Rose, N. Amer. Fl. 23: 111. 1928. TYPE: Mexico. Oaxaca: Tomellin Canyon, 24 June 1899, *J. N. Rose & W. Hough 4680* (holotype, US; isotypes, GH, K, NY).

Lysiloma standleyana Britton & Rose, N. Amer. Fl. 23: 81. 1928. TYPE: Mexico. Oaxaca: Tomellin, Sep. 1905, *J. N. Rose 10082* (holotype, NY; isotypes, NY photos F, MO).

4. Mariosousa coulteri (Bentham in A. Gray) Seigler & Ebinger, comb. nov. Basionym: *Acacia coulteri* Bentham in A. Gray, Pl. Wright. 1: 66. 1852. *Senegalia coulteri* (Bentham) Britton & Rose, N. Amer. Fl. 23: 112. 1928. TYPE: Mexico. Hidalgo: Zimapán, *T. Coulter s.n.* (holotype, K; isotypes, US fragment, K photos F, GH, MEXU, MICH, MO, NY, US).

Not *Acacia coulteri* Bentham in A. Gray sensu Rico-Arce and Rodríguez (1998) and Rico-Arce (2001).

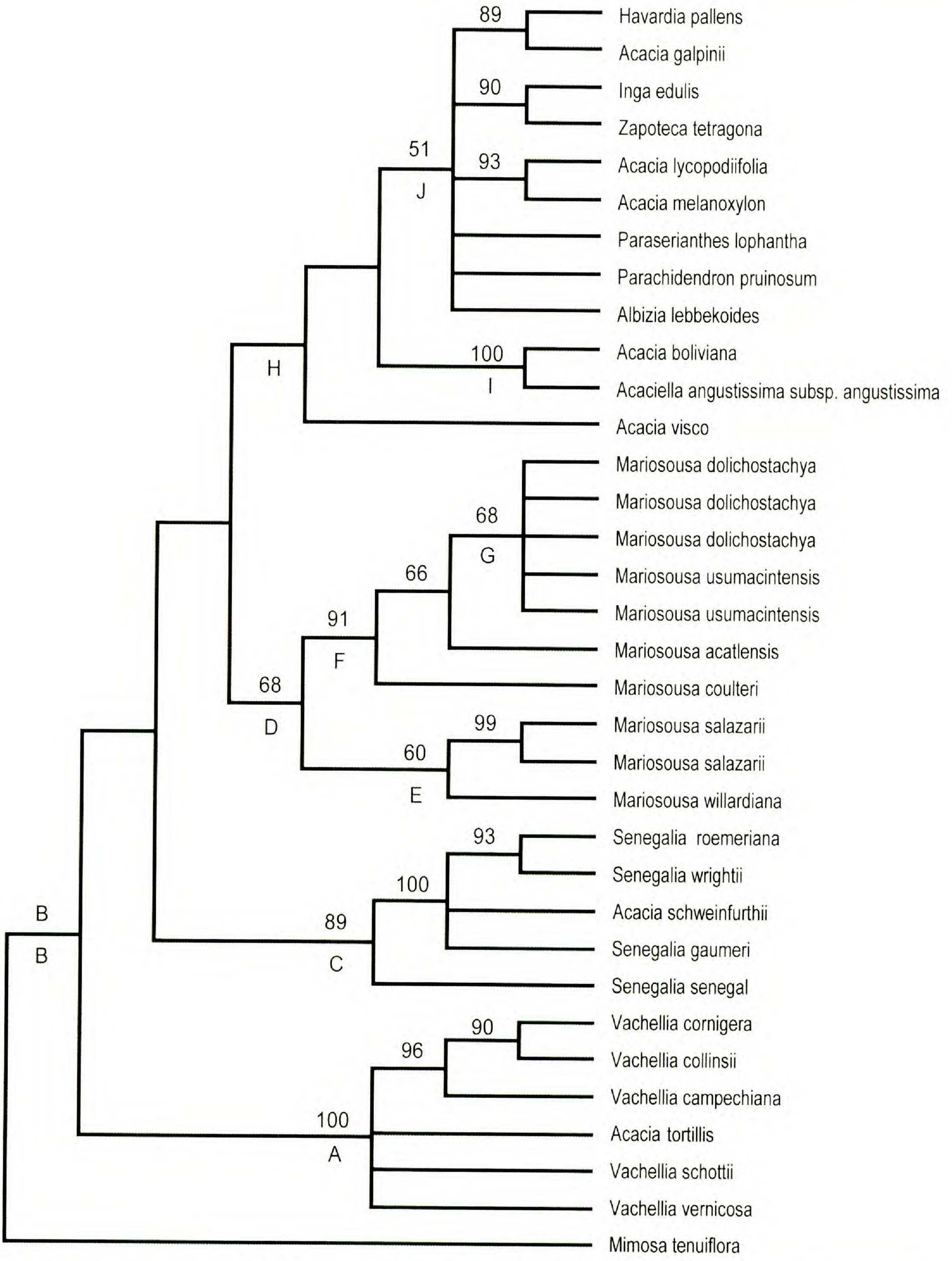

Figure 1. Strict consensus tree of 220 most parsimonious trees from the *mat*K and *trn*L combined datasets. Bootstrap values are above branches. Refer to text for discussion of the clades labeled (A–J). The names *Acacia boliviana*, *A. galpinii*, *A. schweinfurthii*, *A. tortilis*, and *A. visco* should be considered as members of *Acacia* s.l.

5. Mariosousa dolichostachya (S. F. Blake) Seigler & Ebinger, comb. nov. Basionym: *Acacia dolichostachya* S. F. Blake, Proc. Biol. Soc. Washington 34: 43. 1921. *Senegalia dolichostachya* (S. F. Blake) Britton & Rose, N. Amer. Fl. 23: 112. 1928. TYPE: Mexico. Yucatán: Las Bocas de Silam, May 1916, *G. F. Gaumer & Sons 23329* (holotype, F; isotypes, F, G, F photo NY).

6. Mariosousa durangensis (Britton & Rose) Seigler & Ebinger, comb. nov. Basionym: *Senegalia durangensis* Britton & Rose, N. Amer. Fl. 23: 112. 1928. *Acacia durangensis* (Britton & Rose) Jawad, Seigler & Ebinger, Ann. Missouri Bot. Gard. 87: 541. 2000. TYPE: Mexico. Durango: San Ramón, 21 Apr.–18 May 1906, *E. J. Palmer 107* (holotype, NY; isotypes, F, MO, UC, US, NY photo MEXU).

7. Mariosousa mammifera (Schlechtendal) Seigler & Ebinger, comb. nov. Basionym: *Acacia mammifera* Schlechtendal, Linnaea 12: 563. 1838. *Senegalia mammifera* (Schlechtendal) Britton & Rose, N. Amer. Fl. 23: 112. 1928. TYPE: Mexico. Hidalgo: Barranca de Acholoya, s.d., *C. A. Ehrenberg s.n.* (holotype, HAL; isotype, UC).

8. Mariosousa millefolia (S. Watson) Seigler & Ebinger, comb. nov. Basionym: *Acacia millefolia* S. Watson, Proc. Amer. Acad. Arts 21: 427. 1886. *Senegalia millefolia* (S. Watson) Britton & Rose, N. Amer. Fl. 23: 111. 1928. TYPE: Mexico. Chihuahua: Hacienda San José, near Batopilas, Aug. 1885, *E. J. Palmer 45* (lectotype, designated by Isely (1969: 379), GH; isotypes, MEXU, NY).

9. Mariosousa russelliana (Britton & Rose) Seigler & Ebinger, comb. nov. Basionym: *Senegalia russelliana* Britton & Rose, N. Amer. Fl. 23: 112. 1928. *Acacia russelliana* (Britton & Rose) Lundell, Contr. Univ. Michigan Herb. 4: 7. 1940. TYPE: Mexico. Sinaloa: vicinity of San Blas, 22 Mar. 1910, *J. N. Rose, P. C. Standley & P. G. Russell 13204* (holotype, US; isotypes, GH, NY).

10. Mariosousa salazarii (Britton & Rose) Seigler & Ebinger, comb. nov. Basionym: *Senegalia salazarii* Britton & Rose, N. Amer. Fl. 23: 113. 1928. *Acacia salazarii* (Britton & Rose) Lundell, Contr. Univ. Michigan Herb. 4: 8. 1940. TYPE: Mexico. Michoacán: Xochiapa, 13 Apr. 1912, *F. Salazar s.n.* (holotype, US; isotypes, MEXU, NY).

The description of *Acacia coulteri* in Rico-Arce and Rodríguez (1998) and Rico-Arce (2001) clearly corresponds to *A. salazarii* (now *Mariosousa salazarii*) in Jawad et al. (2000) and the present work. *Mariosousa coulteii* (*A. coulteri*) does not fall within the geographic or morphological range of *M. salazarii*.

11. Mariosousa sericea (Martens & Galeotii) Seigler & Ebinger, comb. nov. Basionym: *Acacia sericea* Martens & Galeotti, Bull. Acad. Roy. Sci. Bruxelles 10(2): 311. 1843. *Senegalia sericea* (Martens & Galeotti) Britton & Rose, N. Amer. Fl. 23: 111. 1928. TYPE: Mexico. Puebla: Tehuacán, 6000 ft., May 1840, *H. Galeotti 3345* (holotype, BM; isotypes, K, P, BM photos MEXU, MICH, NY).

Acacia pueblensis Brandegee, Univ. California Publ. Bot. 4: 85. 1910. TYPE: Mexico. Puebla: Cerro de Solunte, 7000–8000 ft., June 1909, *C. A. Purpus 3863* (holotype, UC; isotypes, BM, MO, NY, US, UC photo MEXU).

12. Mariosousa usumacintensis (Lundell) Seigler & Ebinger, comb. nov. Basionym: *Acacia usumacintensis* Lundell, Contr. Univ. Michigan Herb. 4: 8. 1940. TYPE: Mexico. Tabasco: Boca Cerro on the Río Usumacinta above Tenosique, 1–5 July 1939, *E. Matuda 3550* (holotype, MICH; isotypes, K, LL, MEXU, MICH, NY).

13. Mariosousa willardiana (Rose in Vasey & Rose) Seigler & Ebinger, comb. nov. Basionym: *Acacia willardiana* Rose in Vasey & Rose, Contr. U.S. Natl. Herb. 1: 88. 1890. TYPE: Mexico. Sonora: rocky islands and ledges on the coast of Guaymas, 1–2 Apr. 1890, *E. J. Palmer 164* (holotype, US).

Because of the recent conservation of the type for *Acacia* with an Australian species, the desirability and timeliness of transferring species of the former subgenus *Aculeiferum* to a new genus *Mariosousa*, the fact that the name *Acacia willardiana* Rose has been used for this species by most workers and that name is widely employed in floras of Mexico, and in order to contribute to nomenclatural stability, we have made a proposal to conserve the name *A. willardiana* Rose in Vasey and Rose (1890). If accepted, the name for this taxon must become *Mariosousa willardiana* (Rose) Seigler & Ebinger.

Prosopis heterophylla Bentham, London J. Bot. 5: 82. 1846. *Senegalia heterophylla* (Bentham) Britton & Rose, N. Amer. Fl. 23: 114. 1928. TYPE: Mexico. Sonora: Alta, 1830, *T. Coulter s.n.* (holotype, TCD).

Not *Acacia heterophylla* Willdenow (1806: 1049–1093), a widespread extra-Australian phyllodinous species of Madagascar and the Indian and Pacific oceans.

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